REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-17 are pending in the present application. Claims 1, 5, 6, 12, 13, 15, and 17 are amended by the present amendment.

In the outstanding Office Action, Claim 17 was objected to; Claims 12 and 13 were rejected under 35 U.S.C. § 101; Claims 5 and 6 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1, 5, 7, 10, and 15-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke (U.S. Patent No. 6,625,083) in view of Berg et al. (U.S. Patent No. 6,975,560, herein "Berg"); Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Clark (U.S. Patent No. 3,256,539); Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Flude (U.S. Patent No. 2,224,565); Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and Flude and further in view of Keckler et al. (U.S. Patent No. 4,775,962, herein "Keckler"); Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Perez-Collazo (U.S. Patent No. 5,279,244); Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Lunde et al. (U.S. Patent No. 6,477,111, herein "Lunde"); Claims 9 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Bibee et al. ("Seismic Penetrator

Technology for Use in Shallow Water Seismoacoustics," herein "Bibee"); Claims 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Takeuchi et al. (U.S. Patent No. 4,953,123, herein "Takeuchi"); and Claims 14 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vandenbroucke in view of Berg and further in view of Svenning et al. (U.S. Patent No. 5,442,590, herein "Svenning").

Regarding the objection to Claim 17, this claim has been amended as suggested by the outstanding Office Action. No new matter has been added. Thus, it is respectfully requested that this objection be withdrawn.

Regarding the rejection of Claims 12 and 13 as inoperative under 35 U.S.C. § 101, Claim 12 has been amended to clarify that an electrical connection between a base and a module is achieved by a contactless coupling, as disclosed in the originally filed specification, for example, at page 10, lines 27-31. No new matter has been added. Accordingly, it is respectfully requested that this rejection be withdrawn.

Regarding the rejection of Claims 5 and 6 over 35 U.S.C. § 112, second paragraph, these claims have been amended to remove the rejected feature. No new matter has been added. Accordingly, it is respectfully requested that this rejection be withdrawn.

Regarding the remaining rejections on the merits of the claims, the independent claims have been amended to recite a housing being provided at an upper end of a stem and the housing is configured to receive within a module. The claim amendments find support, for example, in Figures 1-4 in which a housing 18 is shown to receive the

module 6. Further, the originally filed specification discloses this feature at page 7, lines 32-35. No new matter has been added. Thus, the remaining rejections are traversed for the following reasons.

Briefly recapitulating, amended Claim 1 is directed to a system for seismic exploration of a submerged sub-surface. The system includes a plurality of bases located at predetermined seabed positions. Each base includes an elongate stem penetrating the seabed, at least a seismic sensor within the stem, a housing connected to an upper end of the stem, and a radially extending support zone connected to the housing. The system further includes a respective plurality of modules each incorporating a data storage unit and a power source. The module is configured to be received within the housing. Independent Claim 15, although different from Claim 1, has been amended similar to independent Claim 1.

In a non-limiting example, Figure 1 shows the base 4, the seismic sensor 10 or 12, the housing 18, the support zone 19 or 53 and the module 6.

Turning to the applied art, Vandenbroucke shows in Figure 1 an acquisition unit 1 that includes (i) a spire 2 that contains seismic receivers 4, (ii) a floating device 7, and (iii) a data collection module 5. The floating device 7 is described at column 3, lines 45-60, as being configured to bring back to surface the acquisition unit 1.

However, Vandenbroucke does not teach or suggest that (i) the spire 2 has a housing at an upper end and (ii) the data collection module 5 is configured to be received within the housing. In fact, Vandenbroucke is silent about how the spire 2 is connected to the floating device 7 and the data collection module 5.

In addition, as recognized by the outstanding Office Action in the paragraph bridging pages 4 and 5, Vandenbroucke does not teach or suggest that the module 5 includes a power unit and the module 5 is configured to be connected and disconnected from the spire 2 by an underwater vehicle.

To cure these deficiencies of Vandenbroucke, the outstanding Office Action relies on Berg for disclosing the above noted features. Berg discloses a system for planting ocean bottom stations (OBS) at the bottom of the ocean. Berg shows in Figure 5 and discloses at column 7, lines 8-27, that an OBS receiver unit 14 includes, among other things, containers 40, 41, and 42 "for receiving batteries, electronic equipment and related auxiliaries." In addition, the OBS receiver unit 14 includes a sensor unit 45 connected the containers 40-42 through a cable.

The OBS receiver unit 14 is provided on a carrier 15 that is deployed at the bottom of the ocean with a crane 19 as disclosed at column 5, lines 42-44 and shown in Figure 7.

In other words, Berg teaches placing all the components of the OBS receiver unit 14 to the bottom of the ocean, recording data, and then recovering the entire unit. However, Berg does not teach that a battery should be placed in a module that can be separated from the OBS receiver unit 14, a teaching that is missing in Vandenbroucke in view of Claim 1.

In this regard, it is noted that the outstanding Office Action suggests that one skilled in the art would modify Vandenbroucke to add a battery, based on the teachings of Berg, to the data collection module 5 of Vandenbroucke and not the spire 2.

This assertion of the outstanding Office Action is not accurate as Berg only teaches the simple fact of using a battery and does not teach where to place the battery. In addition, Berg does not teach or suggest the features added to Claim 1.

Thus, it is respectfully submitted that amended independent Claims 1 and 15 and each of the claims depending therefrom patentably distinguish over Vandenbroucke and Berg, either alone or in combination.

The remaining applied art has been considered but does not overcome the deficiencies of Vandenbroucke and Berg discussed with regard to Claim 1. Thus, it is believed that the pending claims patentably distinguish over the applied art.

Accordingly, in light of the above discussion and in view of the enclosed amendments, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested. If, however, there are any remaining unresolved issues that would prevent the issuance of the Notice of Allowance, the Examiner is urged to contact the undersigned at (540) 361-2601, ext. 132 in order to expedite prosecution of this application.

Respectfully submitted,

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